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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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John Elvesjo

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EXAMINER

GREECE, JAMES R

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/535,227	<b>Applicant(s)</b> ELVESJO ET AL.	
	<b>Examiner</b> JAMES R. GREECE	<b>Art Unit</b> 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 5, 13, 21-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 13 is/are allowed.
- 6) ☒ Claim(s) 1, 21, 22 and 24-29 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 24-25, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Hutchinson et al (USPAT 6,152,563).

Re claim 1 Hutchinson et al teaches an eye detection installation comprising- one or more light sources for emitting light in directions toward the head of a user, (see at least col. 5, lines 32-35 and col. 4, lines 48-67) a detector for receiving light from the head of a user and to repeatedly capture pictures thereof, (see at least col. 4, lines 42-45) and an evaluation unit connected to the detector for determining the position and/or gaze direction of an eye, (for details see at least col. 3, lines 7-12 and col. 5, lines 14-31) characterized in that the evaluation unit is- being arranged to determine, in a picture captured by the detector, an area in which an image of an eye or images of eyes is/are located, (see at least col. 5, lines 5-31) and after determining the area, to control the detector to forward to the evaluation unit information about successive or following pictures that only corresponds to the determined area of the image captured by the detector (see at least col. 5, lines 5-31) the detector only reading out information from a portion of the detector's surface that corresponds to the determined area, and thereby, data that are then to be forwarded to the evaluation unit (see at least col. 5, lines 5-31).

Art Unit: 2873

Re claim 21 Hutchinson et al teaches wherein in the case where the evaluation unit cannot from the forwarded information execute the determination, the evaluation unit is arranged to control the detector to forward for the next picture information about a larger portion of the detector around the previously determined area (for details see col. 3, lines 65-67 and col. 4, lines 1-15).

Re claim 24 Hutchinson et al teaches wherein the evaluation unit is arranged: to decide in a current picture captured by the detector whether the picture contains images of the two eyes of a user, (see at least col. 5, lines 32-35 and col. 4, lines 48-67) and the evaluation unit is arranged to use in a captured image the positions of the images of the reflections of the light sources to determine the location of the eye in relation to the detector (see at least col. 3, lines 65-67 and col. 4, lines 1-15).

Re claim 25 Hutchinson et al teaches wherein the evaluation unit is arranged to determine the distance between images of the reflections of the light sources in a captured picture to determine there from the distance to the eye from the detector (see at least col. 3, lines 65-67 and col. 4, lines 1-15).

Re claim 28, Hutchinson et al further disclose the following as claimed: One of the light sources is arranged to emit light in a light beam coaxial with the optical axis of the detector (for details see at least figure 1)

Art Unit: 2873

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchinson et al (USPAT 6,152,563) and in view of Ueno et al (USPAT 5,293,427).

In regard to claim 22, Hutchinson et al do not explicitly disclose the following as claimed:

To decide in a current picture captured by the detector whether the picture contains images of the two eyes of a user, and in the case where the evaluation unit decides that an image of only one eye exists in the current picture, to determine that this eye is the same eye that has an image within a previously captured picture, provided that the image of the eye has a position in the current picture that is sufficiently close to the position of the image of the eye in the previously captured picture.

Art Unit: 2873

However Ueno discloses this limitation in col, 5, lines 1-12.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Hutchinson et al to include the eye detection scheme of Ueno et al for the predictable result of determining optimal results when one side of the face is obscured.

4. Claims 26, 27, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchinson et al (USPAT 6,152,563) as applied to claim 1 above, and further in view of Lemelson et al (USPAT 6,421,064).

In regard to claim 26, Hutchinson et al disclose the following as claimed:

Characterized in that at least three light sources are provided in a definite pattern (See at least col. 3, lines 51-64; col. 4, lines 48-67; col. 5, lines 32-35)

In regard to claim 26, Hutchinson et al does not explicitly teach the following as claimed:

The evaluation unit arranged to determine the positions of images of the reflections of the light sources and to use all the determined positions to determine the location of the eye in relation to the detector.

However Lemelson et al teach this limitation in col. 11, lines 37-55.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Hutchinson to include an evaluation unit arranged to determine the positions of images of the reflections of the light sources and to use all the determined positions to determine the location of the eye in relation to the detector as taught by Lemelson for the predictable result of providing an eye tracking device with a wide variety of applications.

Art Unit: 2873

In regard to claim 27, Hutchinson et al disclose the following as claimed:

Characterized in that the light sources are divided in two groups, a first group of which is arranged to emit light suited to determine, from pictures captured with illumination from only this group, the gaze direction of the eye (See at least col. 3, lines 51-64; col. 4, lines 48-67; col. 5, lines 32-35).

In regard to claim 27, Hutchinson et al does not explicitly teach the following as claimed:

A second group of which is arranged to emit light suited to determine, from pictures captured with illumination from only this group, the distance of the eye from the detector, the control unit arranged to switch either one of or both of these two groups on in capturing each picture.

However Lemelson et al teach this limitation in col. 11, lines 37-55.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Hutchinson to include a second group of which is arranged to emit light suited to determine, from pictures captured with illumination from only this group, the distance of the eye from the detector, the control unit arranged to switch either one of or both of these two groups on in capturing each picture as taught by Lemelson for the predictable result of providing an eye tracking device with a wide variety of applications.

In regard to claim 29, Hutchinson et al disclose the following as claimed:

characterized in that the light sources are divided in two groups, a first group of which is arranged to emit light that causes a bright eye effect and hence is suited to determine, from

Art Unit: 2873

images captured with illumination from only this group, the gaze direction of the eye, (See at least col. 3, lines 51-64; col. 4, lines 48-67; col. 5, lines 32-35).

In regard to claim 29, Hutchinson et al do not explicitly teach the following as claimed:

and a second group of which is arranged to emit light suited to determine, from pictures captured with illumination from only this group, the distance of the eye from the detector, the control unit being arranged to activate either one or both these groups in capturing each picture.

However Lemelson et al teach this limitation in col. 11, lines 37-55.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Hutchinson to include a second group of which is arranged to emit light suited to determine, from pictures captured with illumination from only this group, the distance of the eye from the detector, the control unit being arranged to activate either one or both these groups in capturing each picture as taught by Lemelson for the predictable result of providing an eye tracking device with a wide variety of applications.

#### ***Allowable Subject Matter***

5. Claims 5 and 13 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art taken singularly or in combination fails to anticipate or fairly suggest the limitations of the independent claims, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

For reasons for allowable subject matter please see office action of 5/30/08.



Art Unit: 2873

7. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: The prior art taken singularly or in combination fails to anticipate or fairly suggest the limitations of the independent claims, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper.

In regard to dependent claim 23, the prior art taken either singly or in combination fails to anticipate or fairly suggest an eye detection installation including the particular set of limitations as claimed; recited together in combination with the totality of particular features/limitations recited therein.

### ***Response to Arguments***

9. Applicant's arguments filed 9/2/2008 have been fully considered but they are not persuasive.

The applicant's argument revolves around his assertion that the detector only reads out information from that portion of the detector surface that corresponds to the determined area in which an image of an eye or images of eyes are located. However the examiner believes that this determination is a relative one and further the claim language leaves little clear indication how one defines such an area of the detector beyond the fact that it includes the eye region. Clearly the prior art Hutchinson reference does disclose the glint location off the eye and the location of the pupil of the eye and therefore the area of the detector utilized includes a determined area

Art Unit: 2873

including the eye in the Hutchinson reference. Furthermore the claim only requires that an area is determined and does not necessarily require that the determined area be less than the whole image. It is within the set of possibilities that the entire image could be the area. It is therefore the examiner's position that the claim insufficiently describes the applicant's intent and that the applicant is importing limitations from the specification.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the feature upon which applicant relies (i.e., "determined area") has been given its broadest reasonable interpretation. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The examiner respectfully disagrees with applicant's interpretation of, "determined area."

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2873

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES R. GREECE whose telephone number is (571)272-3711. The examiner can normally be reached on M-Th 7:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. R. G./  
James R Greece  
Examiner, Art Unit 2873  
12/6/2008

/Ricky L. Mack/  
Supervisory Patent Examiner, Art Unit 2873

Application/Control Number: 10/535,227

Page 11

Art Unit: 2873